

Notice of Allowability

Application No.

10/730,676

Applicant(s)

NAGASAKA ET AL.

Examiner

John A. McPherson

Art Unit

1756

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to the substitute specification and drawings filed 11/21/05.
2. ☒ The allowed claim(s) is/are 1-15.
3. ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some* c) ☐ None of the:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

* Certified copies not received: _____.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.

THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.

4. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
5. ☐ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.
- (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review (PTO-948) attached
- 1) ☐ hereto or 2) ☐ to Paper No./Mail Date _____.
- (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date _____.
- Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).
6. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

Attachment(s)

- | | |
|---|---|
| 1. <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 5. <input type="checkbox"/> Notice of Informal Patent Application |
| 2. <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 6. <input type="checkbox"/> Interview Summary (PTO-413),
Paper No./Mail Date _____ |
| 3. <input checked="" type="checkbox"/> Information Disclosure Statements (PTO/SB/08),
Paper No./Mail Date <u>12/5/03</u> | 7. <input checked="" type="checkbox"/> Examiner's Amendment/Comment |
| 4. <input type="checkbox"/> Examiner's Comment Regarding Requirement for Deposit
of Biological Material | 8. <input checked="" type="checkbox"/> Examiner's Statement of Reasons for Allowance |
| | 9. <input type="checkbox"/> Other _____ |

EXAMINER'S AMENDMENT

An examiner's amendment to the record appears below. Should the changes and/or additions be unacceptable to applicant, an amendment may be filed as provided by 37 CFR 1.312. To ensure consideration of such an amendment, it MUST be submitted no later than the payment of the issue fee.

Authorization for this examiner's amendment was given in a telephone interview with Peter J. Manus on 8/31/06.

The application has been amended as follows:

In claim 4, line 21, "per" has been deleted, and --pre-- substituted therefor.

In claim 12, line 13, "emitter" has been deleted, and --emitters-- substituted therefor.

In claim 14, line 8, before the word *insulating*, "the" has been deleted, and --an-- substituted therefor.

Election/Restrictions

This application is in condition for allowance except for the presence of claims 16-18, directed to an invention non-elected without traverse in a telephone conversation with Peter J. Manus on 8/4/06. Accordingly, claims 16-18 have been cancelled.

Pertinent Prior Art

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

US 2003/0017423 discloses a method of forming emitter tips for use in a field emission display comprising the steps of forming a dielectric layer, an insulating layer and a conductor layer in sequence; forming an annular groove in the conductive layer and the insulating layer; forming a tip cavity with an insulating tip within by isotropic wet etching; and forming a molybdenum metal layer on the insulating tip.

US 2003/0124869 discloses a method of forming emitter tips on a field emission display comprising the step of forming a conductive layer on a substrate; forming a photoresist layer on the conductive layer wherein the photoresist pattern has at least a pattern for defining predetermined areas of the emitter tips; plasma etching the conductive layer to become a plurality of emitter stages; and increasing the vertical etching rate to etch the lateral sidewalls of the emitter stages, thus shaping them as emitter tips.

US 5,735,721 discloses a method for fabricating a field emission display comprising the steps of forming a photoresist on a gate electrode layer to form a release layer; forming a metal mask thereon; and etching holes to form micro-tips.

Allowable Subject Matter

The following is an examiner's statement of reasons for allowance:

In a method for manufacturing a field emission display as set forth in the presently claimed invention, the prior art does not teach or suggest the steps of exposing the photosensitive film to light so as to form openings that correspond in a shape of emitters, the light be directed into a micro lens array so as to be condensed in interior of the photosensitive material (claim 1), or exposing the photosensitive material to light so as to form pre-emitter shapes that correspond to a shape of the emitters, the light being directed into a micro lens array so as to be condensed in interior of the photosensitive material so that the photosensitive material is given intensity distribution that corresponds to the shape of the emitters (claims 4 and 12).

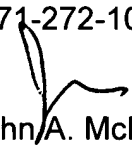
Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

Any inquiry concerning this communication or earlier communications from the examiner should be directed to John A. McPherson whose telephone number is (571) 272-1386. The examiner can normally be reached on Monday through Friday, 8:00 AM to 4:30 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Mark Huff can be reached on (571) 272-1385. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.



John A. McPherson
Primary Examiner
Art Unit 1756

JAM
8/31/06